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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,937	04/19/2001	Christoph Gerard August Hoelen	NL 000211	8218

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER

ANYASO, UCHENDU O

ART UNIT	PAPER NUMBER
2675	1 2

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,937

Applicant(s)

HOELEN ET AL.

Examiner

Uchendu O Anyaso

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. **Claims 1-20** are pending in this action.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2, 5, 6, 8-11, 14, 15, 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Nobs* (U.S. 4,559,480) in view of *Havel* (U.S. 6,535,186).

Regarding **independent claims 1, 8, 9, 17 and 19**, *Nobs* teaches an assembly concerning a light emitting element for use in a matrix display board wherein the light emitting element (24) constitutes a pixel a plurality of which when arranged in rows and columns may form a matrix display board 1 (*see* Abstract; *see also* column 1, lines 7-8).

Furthermore, *Nobs* teaches a display board 1, and teaches how it is driven by a control circuit 4 (column 3, lines 15-16, figure 1 at 1, 4).

Furthermore, *Nobs* teaches an illumination system in the form of fluorescent tubes 10, 11, 12 of different colors (red, green, blue) wherein the fluorescent tubes form a light emitting element or pixel 24 (column 3, lines 32-38, figure 2, 3 at 10-12; column 4, lines 4-8, figure 3 at 10-12).

Art Unit: 2675

Also, Nobs teaches how each of the fluorescent tubes light sources would have a different light-emission wavelength (column 4, lines 28-35).

However, Nobs does not teach how the light sources would comprise at least three sets of light emitting diodes wherein each set of light emitting diodes has a different light-emission wavelength. On the other hand, Havel teaches a multicolor display element that includes a plurality of display areas arranged in a pattern such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4) wherein the principles of this invention would be applicable to different types of display devices such as liquid crystal devices, plasma display devices, cathode ray tube displays, and so on (see column 7, lines 57-61).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Nobs and Havel because while Nobs teaches how a display board 1 is driven by a control circuit 4 within a control center (column 3, lines 15-16, figure 1 at 1, 4) wherein each of the fluorescent tubes light sources would have a different light-emission wavelength (column 4, lines 28-35), Havel teaches how one would use light emitting diode as the light sources within such a display device such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4). The motivation for combining these inventions would have been to provide a multicolor display element using three primary color LEDs.

Furthermore, Nobs teaches how the control center 4 varies the intensity of light emitted by each of the light sources in response to an illumination level of the image to be displayed by the display device 1 (column 3, lines 15-31, figure 1 at 4) wherein the luminous fluxes of the

Art Unit: 2675

light source fluorescent tubes 20-22 are controlled by the duration of the closing of their respective switches 35-37 (*see* column 5, lines 14-17, 46-46, figure 7 at 20-22, 35-37).

Regarding **claims 2**, in further discussion of claim 1, Nobs teaches how the control center 4 varies the intensity of light emitted by each of the light sources in response to an illumination level of the image to be displayed by the display device 1 (column 3, lines 15-31, figure 1 at 4).

Regarding **claims 5, 10, 11, 14, 18 and 20**, in further discussion of claim 1, 2, 17 and 19, Nobs teaches how each of the fluorescent tubes light sources would have a different light-emission wavelength (column 4, lines 28-35).

Regarding **claims 6 and 15**, in further discussion of claim 1 and 2, Nobs teaches how each of the sources would have a luminous flux of at least 5 lumens (column 2, lines 30-34).

4. **Claims 7 and 16**, are rejected under 35 U.S.C. 103(a) as being unpatentable over *Nobs* (U.S. 4,559,480) in view of *Havel* (U.S. 6,535,186), as in claim 1, and further in view of *Streck* (U.S. 5,278,545).

Regarding **claims 7 and 16**, in further discussion of claims 6 and 15, Nobs and Havel do not teach how the light emitting diodes are mounted on a printed circuit board. On the other hand, Streck teaches this concept by teaching how LEDs would be mounted onto a printed circuit board in order to achieve its desired functionalities (column 3, lines 38-48).

Art Unit: 2675

Thus, it would have been obvious to a person of ordinary skill in the art to combine Nobs, Havel and Kim because while the combination of Nobs and Havel teaches how one would use light emitting diode as the light sources within such a display device such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4), Streck teaches how the LEDs would be mounted on a PCB (column 3, lines 38-48). The motivation for combining these inventions would have been to provide the versatility of easily repairing the device in the event of the failure of a light emitting source (column 2, lines 66 through column 3, lines 2; column 5, lines 55 through column 6, lines 17).

5. **Claims 3, 4, 12 and 13**, are rejected under 35 U.S.C. 103(a) as being unpatentable over *Nobs* (U.S. 4,559,480) in view of *Havel* (U.S. 6,535,186), as in claim 1, and further in view of *Gibbons* (U.S. 5,122,791).

Regarding **claims 3, 4, 12 and 13**, in further discussion of claim 1 and 2, Nobs and Havel do not teach how the intensity of the light emitted by each of the diodes can be adjusted on a frame-by-frame basis. On the other hand, Gibbons teaches this concept by providing a brightness control mechanism of the display wherein the activation duration of the sets of fluorescent tubes is variable such that half of the frame time (T) is used for the numerous setting operations on the matrix of elements and half is used for the backlighting operations of the various settings (column 3, lines 63 through column 4, lines 33).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Nobs, Havel and Gibbons because while the combination of Nobs and Havel teaches how one would

Art Unit: 2675

use light emitting diode as the light sources within such a display device such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4), Gibbons teaches how the intensity of the light emitted by the sources can be adjusted on a frame-to-frame basis. The motivation for combining these inventions would have been to provide an efficient brightness control for the display device (column 3, line 63).

Response to Arguments

6. Applicant's arguments filed December 29, 2003 have been fully considered but they are not persuasive.

Applicant amended independent claims 1, 8, 9, 17 and 19 to include the features of the light emitting panel being capable of providing light to the display device. Applicant then contends that references Nobs and Havel fail to disclose, teach or suggest both an illumination system and a distinct display device. Applicant argues that Nobs and Havel may produce light but that light is never provided to or received by a display device that comprises a pattern of pixel. Examiner disagrees with applicant's contentions for the following reasons:

First, applicant does state that Nobs and Havel may produce light. Indeed, Nobs and Havel produce light. Specifically, Nobs teaches an illumination system in the form of fluorescent tubes 10, 11, 12 of different colors (red, green, blue) wherein the fluorescent tubes form a light emitting element or pixel 24 (column 3, lines 32-38, figure 2, 3 at 10-12; column 4, lines 4-8, figure 3 at 10-12), and Havel teaches a multicolor display element that includes a plurality of display areas arranged in a pattern such that each display area includes three light

emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4). These light emitting elements constitute the illumination systems in these inventions.

Second, on the issue that Nobs and Havel may produce light but that light is never provided to or received by a display device that comprises a pattern of pixel, applicant should note that a complete reading of Havel shows how it would be obvious to a person of ordinary skill in the art to incorporate the light emitting diodes features into various types of display devices (*see* column 7, lines 57-61). Specifically, Havel teaches a multicolor display element that includes a plurality of display areas arranged in a pattern such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4). Furthermore, Havel teaches how the principles of this invention would be applicable to liquid crystal devices, plasma display devices, cathode ray tube displays, and so on (*see* column 7, lines 57-61). Thus, it would have been obvious to a person of ordinary skill in the art to combine Nobs and Havel because while Nobs teaches how a display board 1 is driven by a control circuit 4 within a control center (column 3, lines 15-16, figure 1 at 1, 4) wherein each of the fluorescent tubes light sources would have a different light-emission wavelength (column 4, lines 28-35), Havel teaches how one would use light emitting diode as the light sources within such a display device such that each display area includes three light emitting diodes for emitting light signals of different colors (*see* Abstract; column 5, lines 1-8, figure 3 at 2-4). The motivation for combining these inventions would have been to provide a multicolor display element using three primary color LEDs.

Third, it is obvious to a person of ordinary skill in the art that display devices such as LCDs, for example, comprise a plurality of pixels. These pixels are at the heart of the technology of such LCD devices. As such, applicant claiming a display device that comprise a pattern of pixels is not a novel concept. Hence, the liquid crystal devices taught in Havel typically do have pixels.

As such, applicant's amendments and argument fail to put this application in a condition for allowance.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2675

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

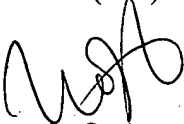
Washington, D.C. 20231

or faxed to:


(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Uchendu O. Anyaso

3/5/2004


CHANH NGUYEN
PRIMARY EXAMINER